Development of volatile compounds during storage of different skin care products at various conditions

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Many skin care products contain various lipids to care and soften the skin. These lipids are either saturated or unsaturated. In the case of even small amounts of unsaturated lipids, these are at risk of oxidizing when exposed to heat, light or other conditions with a pro-oxidative effect. When stored in the homes of consumers skin care products may be exposed to relatively high temperatures and light. Hence, especially skin care products sold in countries with a warm climate can undergo lipid oxidation and develop volatile compounds with off-odours.

This presentation will include results from a storage experiment on three cleansing milks stored between 14 and 84 days, under different conditions. The samples were exposed to heat (20°C, 40°C and 50°C), light (samples at 20°C) and iron (samples at 40°C). Samples were analysed for their development of volatile compounds by dynamic headspace gas chromatography-mass spectrometry and peroxide value, and compared to samples stored at 2°C in the dark. In addition, sensory analyses were carried out to assess the off-odours developed in the samples.